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BOL introduces our New Bioterrorism Training Coordinator

The Bureau of Laboratories is pleased to announce the appointment of Shannon Sharp, MT(ASCP)SBB, as the Bioterrorism Training Coordinator effective October 12, 2015.

Shannon was previously employed as a Microbiologist for the Bureau of Laboratories' TB/Mycology unit. She came to the BOL after working for the American Red Cross in Lansing, Michigan. As a supervisor for the American Red Cross, Shannon had the responsibility to initiate and monitor process improvement activities. She ensured all regulatory compliance requirements were met for laboratory licensing and accreditation. Shannon expanded her experience related to presentation of educational seminars to a wide variety of healthcare facilities throughout the state of Michigan.

Prior to her employment with the American Red Cross, Shannon worked 18 years for Sparrow Health Systems. She initially gained clinical laboratory experience as a phlebotomist, and then as a Medical Technologist for the Serology, Virology Bacteriology, Mycology and Parasitology units in the laboratory. Shannon advanced to become the Microbiology Section Chief of the laboratory for her final seven years of employment with Sparrow Health Systems. Her key achievements at Sparrow involved management of all microbiology testing at the hospital laboratory and administration of the laboratory outreach program which included development and oversight of training programs for Medical Technologists, medical students, and medical residents. Shannon also performed hospital laboratory inspections as a College of American Pathologist committee member.

Please join the Bureau and welcome Shannon to her most recent position as Bioterrorism Training Coordinator. This position was previously held by Valerie Reed for 15 years prior to her retirement in May 2015.

You may contact Shannon for any matters related to Bioterrorism inclusive of training, testing, and laboratory emergency preparedness.

Contact information includes telephone number (517) 335-9653 or email address at sharp1@michigan.gov.



**Director,
Bureau of Laboratories
Sandip Shah, Ph.D.,
HCLD(ABB)**

Department Name Change, Web Address, and Email

Michigan Department of Community Health and Michigan Department of Human Services are now joined as the Department of Health and Human Services "MDHHS". Our old MDCH identity will be replaced on our request forms, documents, webpages, laboratory reports, etc. We appreciate your patience during this transition. We want to call your attention to these two important changes effective October 1, 2015:

Our webpage shortcut is www.michigan.gov/mdhhs

Our public email box is mdhhs@mdhhs.michigan.gov



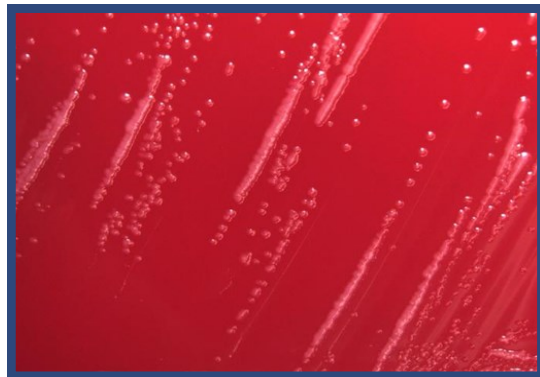


The First Recorded Case of Plague in Michigan

Author: Marty K. Soehnlen, Ph.D., MPH; Microbiology Section Manager

Yersinia pestis, the causative agent of the plague, is a Gram negative coccobacillus that appears as tiny, pinpoint, shiny, grey-white colonies on sheep blood agar plates (BAP) at 24 hours (Figure 1). *Yersinia pestis* is most commonly transmitted to humans through the bite of a flea, but may also be transmitted through handling or eating infected animals, or inhaling respiratory droplets. There are three common forms of the plague; bubonic, septicemic, and pneumonic. Most cases of plague in the United States are reported in California, Colorado, Arizona, and New Mexico. In many instances there are no overt signs that indicate plague in a patient; therefore the laboratory testing is extremely important in the diagnostic process.

Figure 1. *Yersinia pestis* cultured on sheep blood agar plate for 24 hours at 37°C.
(Image courtesy of the CDC Public Health Image Library)



As with all laboratory tests the quality of the specimen is important. When possible, pre-treatment specimens should be collected, but the treatment should not be delayed. Depending on the clinical presentation of illness, lymph node aspirate, blood cultures, sputum, or bronchial/tracheal wash are all acceptable specimen sources (Table 1). The Centers for Disease Control and Prevention recommends that physicians begin appropriate IV therapy as soon as plague is suspected.

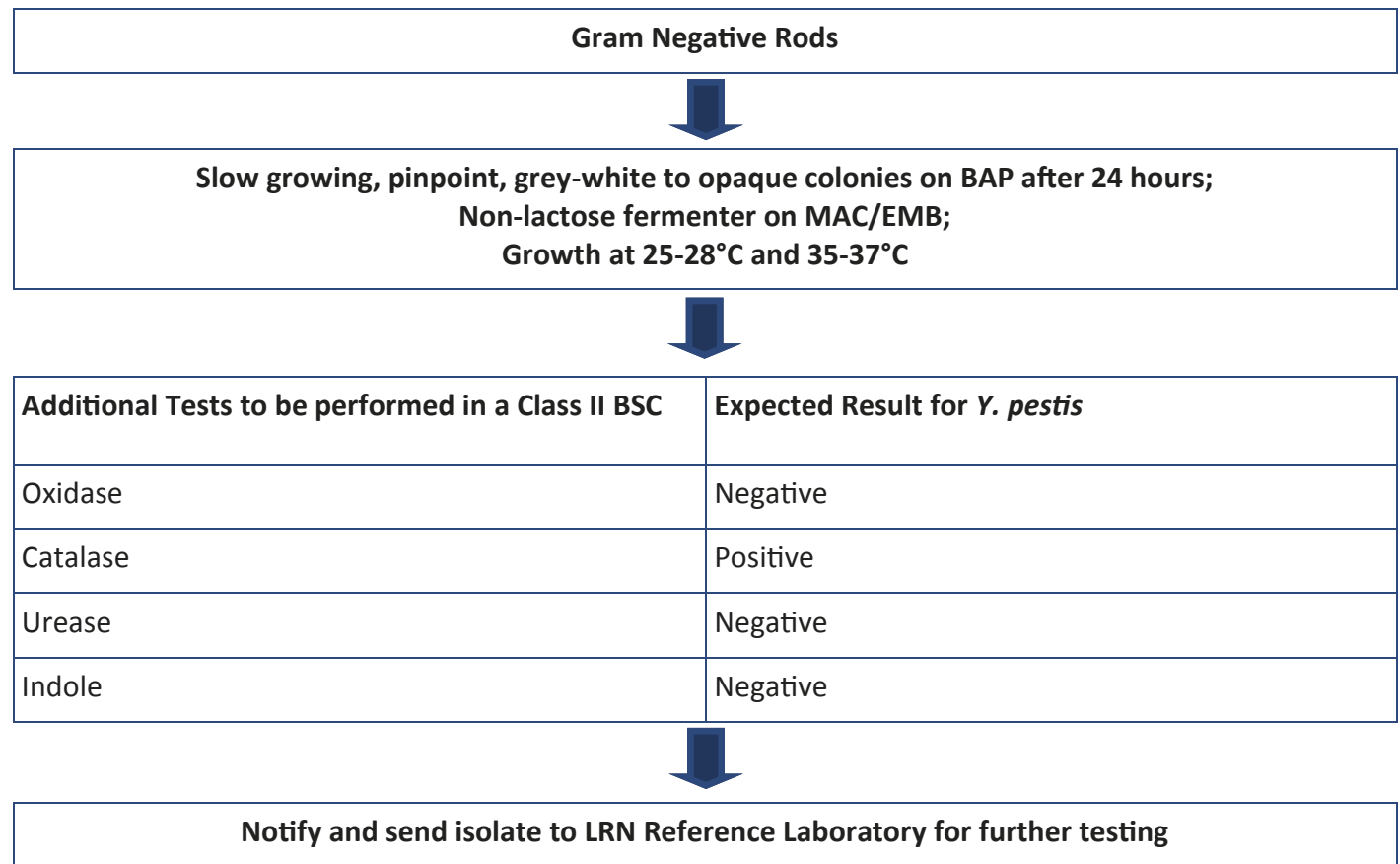
Table 1. Acceptable Specimen Sites

Lymph node aspirate: the affected bubo should contain numerous organisms
Blood cultures: may be seen in smears if patient is septicemic; if negative on smear in early course of disease the blood cultures may still be positive by culture
Sputum: culture is possible from very ill pneumonic patients
Bronchial/Tracheal washes: possible for suspected pneumonic patients (throat specimens are not ideal)
In cases where organism is unculturable (i.e. postmortem) lymphoid, spleen, lung, liver, or bone marrow samples may be able to yield evidence of infection.

A 33 year old woman from Marquette, Michigan became ill after travelling to Salida, Colorado where she had been hiking in the Methodist Mountain Trail System. Following testing it was confirmed that the patient had bubonic plague. This was the first reported case of plague in Michigan and was determined to have been acquired during the patient’s travel to Colorado. The sentinel laboratory procedures include the Gram stain, oxidase test, urease test, catalase test, indole test, and culture characteristics (see Figure 2). There have been recent updates (Sept 2015) to the American Society of Microbiology Sentinel Laboratory Guidelines for *Yersinia pestis*. For the most recent versions of sentinel level clinical laboratory guidelines please visit: www.asm.org/index.php/guidelines/sentinel-guidelines

When a sentinel laboratory is unable to rule out *Yersinia pestis* from the identification of a Gram negative coccobacillus the Michigan Department of Health and Human Services (MDHHS), Bureau of Laboratories (BOL) is contacted as a Laboratory Response Network (LRN) Reference Lab. Confirmatory testing is performed at BOL under Biosafety Level (BSL)-3 conditions.

Figure 2. Sentinel Laboratory Testing Algorithm



The First Recorded Case of Plague in Michigan continued on page 3.....



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In order to ensure that testing is given priority status and that all safety precautions are in place when an isolate is received, it is an important practice to notify MDHHS, BOL before sending any isolate that cannot be ruled out as a potential Category A infectious substance. Upon notification, if necessary an emergency courier may be deployed to collect the isolate and experts will be available to answer questions and assist as needed. It is strongly recommended that sentinel laboratories notify BOL and their Regional Laboratory while the Infection Control professionals notify the Bureau of Epidemiology. Based upon the type of disease suspected or assistance needed the calls received at BOL are forwarded from the main line to the subject matter expert in the area in which notification is most appropriate.

Table 2. Important Contact Numbers for Rule-Out Notification in Michigan

Groups to Call if you are a Laboratory	Number
Bureau of Laboratories main line	517-335-8063
Infectious Diseases Division main line	517-335-8067
Group to Call if you are an Infection Control Practitioner	Number
Bureau of Disease Control, Prevention, and Epidemiology; Communicable Diseases main line	517-335-8165

With the support of the sentinel level clinical laboratories in the state, Michigan is able to detect and confirm suspected agents of bioterrorism or emerging infectious diseases expediently and efficiently as demonstrated by the first recorded case of plague in Michigan.

Join Our HL7 Messaging Pilot Project

The Bureau of Laboratories would like a volunteer healthcare agency to pilot HL7 messaging. Pilot agencies will be the first to utilize HL7 electronic messaging with the Bureau of Laboratories. If your facility would like to participate in our pilot project, please contact Julie Kusey at KuseyJ@michigan.gov.

LabLink is published quarterly by the Michigan Department of Health and Human Services, Bureau of Laboratories, to provide laboratory information to Michigan health professionals and public health community.

MDHHS is an Equal Opportunity Employer, Services and Programs Provider.



The Bureau of Laboratories Community Garden Project

The Bureau of Laboratories employees exhibited their commitment toward the MDHHS Strategic Plan Mission to provide services that promotes a healthy environment for Michigan residents by means of a volunteer-based annual community garden.

2015 marked the 5th consecutive year employee volunteers cultivated a community garden. Margaret Casey, the garden project coordinator, is pleased to announce that 163.4 pounds of organic, 100% pesticide free, produce was donated to local area food banks for distribution to local residents with limited access to fresh and healthy food options. Historically our garden has had a yield of approximately 100 pounds of vegetables each growing season. This year our vegetable crop consisted of cabbage, 5 varieties of tomatoes, 5 varieties of peppers, and tomatillos.

Margaret would like to thank all employee volunteers for their help with the community garden project.



The Bureau of Laboratories Webpage Content Updates

Attention all laboratory system partners. The Bureau of Laboratories is in the process of updating our laboratory web page contents. Please check our web page often for updates to forms, instructions, and other posted materials. Remember to use our new laboratory webpage shortcut. Thank you. www.michigan.gov/mdhhs/lab. Please save this address as one of your internet favorites.